

REMARKS/ARGUMENTS

This Amendment is in response to the Office Action mailed on May 28, 2003. The Examiner rejected pending claims 7-23. Claims 7-23 have been canceled. New claims 24-39 have been added.

Claims Rejections Under 35 USC § 112

The examiner has rejected claims 7-23 under 35 U.S.C. §112. In particular, the examiner states "Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP §2172.01. The omitted elements are: no structure has been recited to obtain a laser and no structure has been recited to obtain a cavity."

The examiner's rejection of claim 7 is now moot, since claim 7 has been cancelled. New claim 24 is submitted, the new claim 24 reciting a laser structure comprising:

"a reflecting mirror;
an output face comprising a reflection coefficient, the reflecting mirror and the output face forming a cavity therebetween; and
a gain medium optically coupled between the reflecting mirror and the output face within the cavity such that the cavity has a gain curve with a maximum at a wavelength λ_{\max} "

Thus, both a laser structure and a cavity structure are now recited. No new matter is added, since a reflecting mirror, output face and cavity are disclosed in the specification.

The examiner further states "Claims 12 and 14 are rejected under 35 U.S.C. §112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP §2172.01. The omitted elements are: no structure has been recited for the output face to have the capability of reflection."

The examiner's rejection of claims 12 and 14 are now moot, since claims 12 and 14 have been cancelled. New claims 28 and 30 both depend from new claim 24 that recites "an output face comprising a reflection coefficient" and thus recites a structure for the output face to have the capability of reflection.

Claims Rejections Under 35 USC § 102(e)

Claims 7-23 are rejected under 35 U.S.C. §102(e) as being anticipated by Ventrudo et al (PN 6,233,259). The examiner's rejection of claims 7-23 are now moot, since claims 7-23 have been cancelled. New claim 24 recites an optical device comprising:

“a laser comprising:

a reflecting mirror;

an output face comprising a reflection coefficient, the reflecting mirror and the output face forming a cavity therebetween; and

a gain medium optically coupled between the reflecting mirror and the output face within the cavity such that the cavity has a gain curve with a maximum at a wavelength λ_{\max} ; and

an optical waveguide coupled to the cavity, the optical waveguide including an optical reflector defining a reflection peak coefficient at a wavelength λ that is less than the wavelength λ_{\max} by at least 10 nanometers at ambient temperature.”

Ventrudo et al. do not disclose all the features as recited in claim 24. In particular, Ventrudo et al. do not disclose both "a gain medium having a gain curve with a maximum at a wavelength λ_{\max} " in addition to an "optical waveguide including an optical reflector defining a reflection peak coefficient at a wavelength λ that is less than the wavelength λ_{\max} by at least 10 nanometers." Instead, Ventrudo et al. disclose (FIG. 2) a diode laser 26 and a "fiber grating 34 selected to have maximum reflectivity within 10 nm of the diode laser emission wavelength." (col 4, lines 12-13).

The maximum λ_{\max} , in the gain curve of the gain medium is not anticipated or made obvious by the diode laser emission wavelength. The present specification, discussing one embodiment, states in the paragraph beginning at line 3 of page 8 that "the laser can only operate if losses are lower than the gain. In the case of the device shown in figure 1, the value of the

reflection coefficients from the cavity output face 9 and the grating 6 are such that this only occurs for the wavelength λ that is the reflection wavelength of the grating 6." Thus, the wavelength λ is the laser emission wavelength, if there should be any laser emission. This wavelength λ is clearly noted in curves 11 for the embodiment of FIG. 2 and is clearly not the same as the maximum of the corresponding gain curve 10 in any of the parts of the embodiment of FIG. 2. In fact, the present specification states, in the paragraph beginning at line 27 of page 5, that the device is "characterized in that the value of the wavelength λ defining the reflection peak of the fiber Bragg grating is less than the value of λ_{\max} by at least 10 nm."

The above argument made with respect to claim 24 applies with equal force to all of claims 25-39, since all these claims depend, either directly or indirectly, from claim 24.

Claims Rejections Under 35 USC § 103

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ventrudo et al. (PN 6,233,259) in view of Ventrudo (PN 6,240,119). The examiner's rejection is now moot since claim 21 has been cancelled.

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Amdt. dated November 25, 2003
Reply to Office action of May 28, 2003


CONCLUSION

It is submitted that the present application is in form for allowance, and such action is respectfully requested. Should the Examiner have any questions, please contact the undersigned attorney.

The Commissioner is authorized to charge any additional fees that may be required, including petition fees and extension of time fees, to Deposit Account No. 23-2415 (Docket No. 20397.256.201).

Respectfully submitted,

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